

Listing of Claims

This Listing of Claims supersedes any previous version of claims submitted in connection with this application.

1. (Original) A method of manufacturing a battery, comprising:
providing a cell for a battery having alternating positive and negative electrode plates, each of the positive and negative electrode plates being separated by an electrically insulative separator layer, the positive and negative electrode plates being in overlying relationship, wherein each of the positive electrode plates includes a projecting tab extending from an adjacent upper portion thereof, the projecting tabs of the positive plates being generally aligned, and wherein each of the negative electrode plates includes a projecting tab, the projecting tabs of the negative plates being generally aligned;

attaching a conductive connecting strap to the projecting tabs of the positive electrode plates;

applying a cap material to portions of the projecting tabs and the adjacent upper portions of the positive plates; and

allowing the cap material to harden to provide a cap attached to the projecting tabs and the adjacent upper portions of the positive plates.

2. (Original) The method defined in Claim 1, wherein the cap coats and prevents oxidation of portions of the projecting tabs and the adjacent upper portions of the positive electrode plates.

3. (Original) The method defined in Claim 1, wherein the cap is a rigidifying structure unifying the connection strap and the positive electrode plates.

4. (Original) The method defined in Claim 1, wherein the positive and negative electrode plates are formed of lead-based materials.

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5. (Original) The method defined in Claim 1, further comprising inserting the cell in a housing after the attaching step.

6. (Original) The method defined in Claim 1, further comprising the step of adding electrolytic solution to the cell after the applying step.

7. (Original) The method defined in Claim 1, wherein the applying step comprises applying the cap material to an upper surface of the connecting strap and allowing the cap material to spread and drip to the exposed portions of the projecting tabs and the adjacent upper portions of the positive plates.

8. (Original) The method defined in Claim 7, wherein the cap material comprises an adhesive resin.

9. (Original) The method defined in Claim 8, wherein the adhesive resin is an epoxy resin.

10. (Original) The method defined in Claim 7, wherein the cap material has a viscosity of about 19 poises at 25 degrees C.

11. (Original) The method defined in Claim 1, wherein the positive and negative electrode plates are substantially planar.

12. (Original) The method defined in Claim 1, wherein attaching the connecting strap comprises dipping the projecting tabs of the positive electrode plates in a conductive molten solution captured in a mold, and allowing the molten solution to freeze into a connecting strap within which the projecting tabs are embedded.

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13. (Original) The method defined in Claim 12, wherein the conductive molten solution comprises lead-based material.

14. (Original) A battery, comprising:
a housing;

a plurality of alternating positive and negative electrode plates, each of the positive and negative electrode plates being separated by an electrically insulative separator layer, the positive and negative electrode plates being in overlying relationship and positioned in the housing, wherein each of the positive electrode plates includes a projecting tab extending from an adjacent upper portion thereof, the projecting tabs of the positive plates being generally aligned, and wherein each of the negative electrode plates includes a projecting tab, the projecting tabs of the negative plates being generally aligned;

a conductive connecting strap attached to the projecting tabs of the positive plates;
a conductive connecting strap attached to the projecting tabs of the negative plates;

and

a cap covering portions of the projecting tabs and adjacent upper portions of the positive plates.

15. (Original) The battery defined in Claim 14, wherein the cap comprises an adhesive resin.

16. (Original) The battery defined in Claim 15, wherein the adhesive resin comprises a material selected from the group consists of: epoxies, reactive acrylics and jointing compounds.

17. (Original) The battery defined in Claim 1, wherein the positive electrode plates and the negative electrode plates are formed of lead-based materials.

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18. (Original) The battery defined in Claim 1, wherein the projecting tabs and adjacent upper portions of the negative electrode plates are void of a cap.

19. (Original) The battery defined in Claim 1, further comprising an electrolyte solution contained in the housing.